

Anatomy:

-2 iliac bones connected posteriorly to the sacrum at the sacro-iliac joint (Very strong joint), and connected anteriorly at the symphysis pubis

Mechanism of Injury: High energy trauma (fall from height – motor car accident)

Diagnosis:

1-History of significant trauma 2-Pain & Ecchymosis in the lower abdomen
3-Swollen scrotum 4-Bleeding from the meatus 5-Tenderness
6-PR/PV → If sacrum injuries the rectum → convert the closed fracture to open

Investigations:

1-Plain X-rays: (Multiple views)

a-AP view b-Pelvic inlet view (tilt up the beam by 30°) c-Pelvic outlet view (tilt down by 30° - 40°)
d-Oblique views: (Internal & External)

2-Ultrasound: to detect injury to organs and vessels (e.g. bladder-ureter-ovaries-.....)

3-3D (Reconstruction) CT 4-MRI

****Urethral Injury:** Bleeding, inability to void, swollen scrotum, high prostate

Types of Pelvic fractures:

1-Stable: No displacement of the pelvic ring with walking

e.g. 1-Avulsion as in ASIS # → avulsed tendon of Sartorius muscle

**** Sartorius muscle:** the longest muscle in the human body, originates from ASIS, and joins the tendons of the Gracilis and Semitendinosus muscles (Conjoint Tendon SGS) and inserted in proximal part of tibia

2-Avulsion of muscles attached to ischial tuberosity (Adductor magnus- Biceps femoris)

3-Fracture of Pubic Rami 4-Fracture of iliac wing 5-Fissure in the sacrum

2-Unstable:

a-Rotationally: (Open book like)→ incomplete disruption of the posterior pelvic arch

b-Vertically: complete disruption of the posterior arch and pelvic floor

- # of Rami & part of iliac wing -at the sacroiliac joint

Management:

***Safe Transportation (MAST i.e. Military antishock trousers isn't used anymore)**

***Mortality rate up to 20%**

1-Stable: Only bed rest

2-Rotationally unstable: External Fixation – Plates & Screws

3-Vertically unstable: Sacroiliac bar or plate

****Structures pass through greater sciatic notch:**

1-Sciatic nerve 2-Piriformis muscle 3-Superior and Inferior Gluteal vessels and nerves

Complications:

1-Shock (Neurogenic, Hemorrhagic) 2-Malunion → Contracted Pelvic → Obstacle to labor

3-Limb length discrepancy (inequality) 4-Dyspareunia, Impotence,...

**** Piriformis syndrome**

Sciatic nerve is compressed or irritated by the piriformis muscle causing pain, tingling and numbness in buttocks and along the path of the sciatic nerve descending down the lower thigh and into the leg